

OPTICAL FIBER TRANSMISSION SYSTEM WITH INCREASED EFFECTIVE MODAL BANDWIDTH TRANSMISSION

Abstract

A multi-mode optical fiber link is described that includes a single-mode optical fiber having an input that receives an optical signal for transmission through the multi-mode optical fiber link. A first spatial mode converter is coupled to the single-mode optical fiber. The first spatial mode converter conditions a modal profile of the optical signal for propagation through a multi-mode optical fiber. A multi-mode optical fiber is coupled to an output of the first spatial mode converter. A second spatial mode converter is coupled to an output of the multi-mode optical fiber. The second spatial mode converter reduces a number of optical modes in the optical signal. Both the first and the second spatial mode converters increase an effective modal bandwidth of the optical signal propagating through an output of the second spatial mode converter.